

REMARKS

This application has been amended so as to place it in condition for allowance at the time of the next Office action.

The Office action rejects claims 1-4 and 6 under 35 USC § 102(b) as being anticipated by IKENO et al. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

The present amendment to claim 1 is supported by the description on page 14, lines 7 to 9, page 15, lines 3 to 5 and the various Examples described in Tables 1, 2 and 3-1.

As is recited in claim 1, it is one of the characteristics of the present invention that the steel sheet, having a surface-treated zinc-based plating comprising a zinc-based plating layer, has a chromium-free conductive intermediate layer containing a metal salt of an acid and an organic resin layer containing the metal salt of the acid. It is noteworthy that the intermediate layer and the organic resin layer include the same "metal salt of acid". Thanks to the foregoing structure, concern about water pollution by the elution of chromium is diminished and a steel sheet, in which excellent corrosion resistance and conductivity are possible, can be secured.

The characteristic of the present invention represented by the evaluation tabulated in Table 4 is that there are no "X" marks in the columns of "Corrosion Resistance on Flat Surface"

and "Conductivity". The evaluation method and evaluation standards are disclosed from page 29, lines 22 to page 30, line 9, and from page 31, line 20 to page 32, line 7, respectively. It is understood that, when considering the Examples 1 to 72 in Tables 1, 2 and 3-1 which are free of "X" marks, the "metal" included therein in the layers, i.e., "Intermediate Layer" and the "Organic Resin Layer", is the same metal.

The applied IKENO et al. reference discloses a manganese coating having manganic hydroxide ( $\text{MnOOH}$ ) and an organic coating formed on a zinc plate steel sheet. IKENO et al., however, do not teach the presence, in an organic coating, of a metal or metal salt that are the same as those which compose a manganese coating. Moreover, it is an indispensable feature of the IKENO et al. approach that manganic hydroxide ( $\text{MnOOH}$ ) is formed on the very top of the manganese coating. Hence, the upper layer of the plated steel sheet of IKENO composes a three-layer structure, which is quite disparate from the present invention.

As the applied IKENO et al. reference fails to disclose the full set of features now recited in claim 1, applicants respectfully suggest that the present rejection cannot be maintained.

The Office action rejects claims 1-5 under 35 USC § 102(e) as being anticipated by OGATA et al. Reconsideration and

withdrawal of this rejection are respectfully requested for the following reasons:

OGATA discloses a steel sheet comprising a chemical conversion film formed on a zinc plate steel sheet. Deposited further thereon is a silica-containing organic resin film or a metal powder-containing organic resin film. The chemical conversion films disclosed by OGATA include chromate film, zinc phosphate film, or iron phosphate film. Nevertheless, the metal powders used in the metal powder-containing organic resin film are Al and Ni metal powders which are neither Al salt nor Ni salt of acid and further are different from a type of metal included in a chemical conversion film. On the other hand, no metal is included in the silica-containing organic resin film.

By contrast, with the present invention, a same metal salt of acid is included in both the intermediate layer and an organic resin layer. Accordingly, the present invention is different from the plated steel sheet of OGATA et al., and such reference is believed not to anticipate the present invention as recited.

The Office action rejects claim 5 under 35 USC §103(a) as being unpatentable over IKENO et al. in view of LEE et al. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

The secondary LEE et al. reference is a U.S. Patent having an issue date of May 14, 2002. The LEE et al. patent

issued from an application that entered the national stage of an international application published June 8, 2000. Accordingly, the earliest significant publication date that can be attributed to the LEE et al. reference is June 8, 2000, which date precedes the June 7, 2001 U.S. filing date of the present application by less than one year. For this reason, this reference is unavailable as prior art under § 102(b). Accordingly, the LEE et al. patent is available as prior art, if at all, only under § 102(e).

The present application claims the priority of a Japanese application filed October 8, 1999. As such filing date is earlier than the May 8, 2000 § 102(e) date of the applied LEE et al. reference, applicants can overcome such reference as prior art by perfecting their priority claim. Applicants do so by including herewith a verified translation of the Japanese priority application.

By overcoming this reference, the obviousness rejection against claim 5 necessarily fails, and reconsideration and withdrawal of such rejection are therefore respectfully requested.

Furthermore, even if the LEE et al. reference were available as prior art, applicants suggest that the combination of such reference and the IKENO et al. patent fails to render obvious the present invention as recited.

LEE et al. disclose a surface-treated steel sheet coated with a chromate film, and a resin film layer further thereon. LEE et al. teach that metal powder is included in the resin film layer but the chromate film includes chrome. This is completely contrary to the present invention, in which the intermediate layer does not include chrome. Furthermore, the substance included in the resin film layer is metal powder, not a metal salt of acid.

Entry of the above amendments is earnestly solicited. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. \$1.16 or under 37 C.F.R. \$1.17.

UMINO et al. S.N. 09/857,628

Attached hereto is a marked-up version of the changes made to claim 1. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

Respectfully submitted,

YOUNG & THOMPSON

A handwritten signature in black ink, appearing to read "Eric Jensen", written over a horizontal line.

Eric Jensen, Reg. No. 37,855

745 South 23<sup>rd</sup> Street  
Arlington, VA 22202  
Telephone (703) 521-2297

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 1 has been amended as follows:

1. (amended) A steel sheet having surface-treated zinc-based plating comprising a zinc-based plating layer, a chromium-free conductive intermediate layer containing a metal salt of an acid and an organic resin layer containing said metal salt of said acid, all of the layers being superimposed one on another in the order mentioned.